



# RECOMMENDED MATERIALS

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## 1. Recommended Materials

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**Caution:**

**To insure the best performance and safety, always use the recommended fuel, oil, refrigerant, grease, primer, adhesive and sealant, or an alternative or substitute of equivalent quality.**

### 1. FUEL

Use proper gasoline which meets the conditions below in order to avoid malfunction.

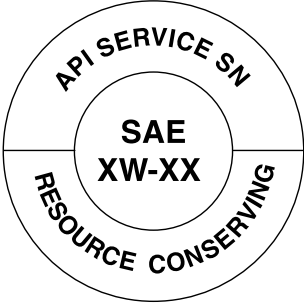
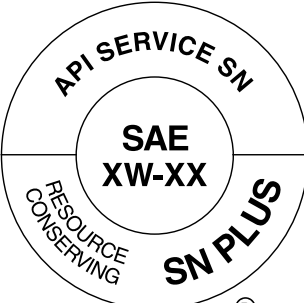

- Use unleaded gasoline.
- Do not use the low quality gasoline, or improper fuel such as diesel fuel, or gasoline additive.
- Always use gasoline that is equivalent to that prescribed in the owner's manual or that of high octane value.


2. GREASE

• ENGINE OIL

**Caution:**

- Use 0W-20 (synthetic oil).
- It is acceptable to fill with an engine oil of another brand, but make sure to use the engine oil corresponding to the following standards.

Item	Recommended and alternative materials
API standard	<div><p>RM-00081</p></div>
	<div><p>® RM-10104</p></div>
	<div><p>® RM-10105</p></div> <p>Those with SN, SN PLUS or SP “RESOURCE CONSERVING” logo.</p>

ILSAC standard	<div><p>RM-00002</p><p>Those with GF-5 or GF-6A “starburst mark” displayed on top of the container.</p></div>																
SAE viscosity No. and applicable temperature	<div><p>0W-20 (synthetic oil) specified</p><table><tr><td>(°C)</td><td>-30</td><td>-20</td><td>-15</td><td>0</td><td>15</td><td>30</td><td>40</td></tr><tr><td>(°F)</td><td>-22</td><td>-4</td><td>5</td><td>32</td><td>59</td><td>86</td><td>104</td></tr></table><div><p>0W-20 (synthetic oil) Specified</p></div></div> <div>RM-10002</div>	(°C)	-30	-20	-15	0	15	30	40	(°F)	-22	-4	5	32	59	86	104
(°C)	-30	-20	-15	0	15	30	40										
(°F)	-22	-4	5	32	59	86	104										

## ● ENGINE COOLANT

### Note:

**The SUBARU Super Coolant contains anti-freeze and anti-rust agents, and is especially made for Subaru engines with an aluminum cylinder block.**

**Be sure to use SUBARU Super Coolant, since other coolant may cause corrosion.**

Item	Recommended and alternative materials
Engine coolant	<ul style="list-style-type: none"> <li><b>Recommended materials:</b> SUBARU made SUBARU SUPER COOLANT*1 *2</li> </ul>
Cooling system protective agent	<ul style="list-style-type: none"> <li><b>Recommended materials:</b> SUBARU made Cooling system conditioner (part No. SOA345001)</li> </ul>

\*1: Distilled water is recommended for dilution. Soft water or tap water can be used alternatively.

\*2: There are two types of SUBARU SUPER COOLANT: concentrated type and diluted type (part number: K0670Y0001).

## ● TRANSMISSION GEAR OIL

### Caution:

**Do not mix different kinds of oil.**

**Note:**

Using any materials other than recommended may result in abnormal noise, vibration, functional decline, or poor fuel economy.

**Recommended and alternative materials**

- **Recommended materials:**

Manual transmission gear oil LV 75W

- **Alternative:**

API standard GL-4 (75W)

- **ATF**

**Caution:**

Always use specified ATF. ATF other than specified ATF will cause malfunction.

**Specified materials**

- **Specified materials:**

ATF WS

- **DIFFERENTIAL GEAR OIL**

**Caution:**

Do not mix different kinds of oil.

**Note:**

Using any materials other than recommended may result in abnormal noise, vibration, functional decline, or poor fuel economy.

**Recommended and alternative materials**

- **Recommended materials:**

Differential gear oil LX

- **Alternative:**

API standard GL-5 (75W-85 or 75W-90)

- **BRAKE FLUID**

**Caution:**

- Do not let brake fluid come into contact with the painted surface of the vehicle. Wash away with water immediately and wipe off if it is spilled by accident.
- Do not mix different kinds of brake fluid.
- Do not allow water or foreign matter to enter the reservoir tank.
- Always use new brake fluid when replacing or refilling the brake fluid.

**Recommended and alternative materials**

- **Recommended materials:**

FMVSS No. 116 DOT3 or DOT4

- **CLUTCH FLUID**

**Caution:**

- Do not let clutch fluid come into contact with the painted surface of the vehicle. Wash away with water immediately and wipe off if it is spilled by accident.
- Do not mix different kinds of clutch fluid.
- Do not allow water or foreign matter to enter the reservoir tank.
- Always use new clutch fluid when replacing or refilling the clutch fluid.

**Recommended and alternative materials**

- **Recommended materials:**  
FMVSS No. 116 DOT3 or DOT4

**3. REFRIGERANT AND COMPRESSOR OIL****Caution:**

- Use the refrigerant and compressor oil listed in the following table.
- Do not mix different kinds of refrigerant and compressor oil.

Item	Recommended and alternative materials
Refrigerant	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> HFO-1234yf</li> </ul>
Compressor oil	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> ND-OIL12</li> </ul>

**4. GREASE****• EXHAUST**

Application point	Recommended and alternative materials
Oxygen sensor (front oxygen (A/F) sensor, rear oxygen sensor)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> CRC Industries CRC5-56 (part No. 004301003) or equivalent</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NEVER-SEEZ NSN and JET LUBE SS-30 or equivalent</li> </ul>

**• MT**

Application point	Recommended and alternative materials
MT main shaft (spline parts)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NICHIMOLY N-130 or equivalent</li> </ul>
Release lever	
Release bearing (inner circumference)	
Master cylinder (push rod)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Silicone grease G-40M or equivalent</li> </ul>
Master cylinder (piston)	
MT gear shift rod	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Permalub ECN-9 or equivalent</li> </ul>

MT gear shift lever (inner bushing)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPON GREASE NIGHTIGHT LTS No. 2 or equivalent</li> </ul>
MT gear shift lever (outer bushing)	
MT gear shift lever (shift retainer pin)	
MT gear shift lever (shift retainer)	
Clutch pedal	
Master cylinder (clevis pin)	

• **AT**

Application point	Recommended and alternative materials
Select lever	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Multemp D No. 2 or equivalent</li> </ul>
Shaft (select lever rod)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPON GREASE NIGHTIGHT LTS No. 2 or equivalent</li> </ul>

• **BRAKE**

Application point	Recommended and alternative materials
Brake pedal (spacer)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPON GREASE NIGHTIGHT LTS No. 2 or equivalent</li> </ul>
Brake pedal (spring brake)	
Brake pedal (bushing brake)	
Clevis pin (connecting the operating rod and brake pedal)	
Slide pin	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPON GREASE NIGLUBE RX-2 (part No. 000041000) or equivalent</li> </ul>
Slide pin lock	
Support disc brake	
Support disc brake	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> DOW CORNING TORAY Molykote M7439 or equivalent</li> </ul>
Pad clip	

• **PARKING BRAKE**

Application point	Recommended and alternative materials
Rear brake back plate	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> DOW CORNING TORAY Molykote 44MA or equivalent</li> </ul>
Parking lever pin	
Adjuster assembly	
Strut	
Inner cable end	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPON GREASE Spray Grease G2272 or equivalent</li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b></li> </ul>



Parking brake lever (tooth face portion)	NIPPON GREASE NIGHTIGHT LTS No. 2 or equivalent
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## HOOD

Application point	Recommended and alternative materials
Sliding section of hinge COMPL front hood	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPECO LTS-1N18L or the equivalent</li> </ul>

## • DOOR

Application point	Recommended and alternative materials
Sliding section of hinge assembly door	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPECO LT-1N</li> <li>• <b>Alternative:</b> Lithium soap grease (not containing silicone) Base oil: Mineral oil based Consistency: NLGI No. 1</li> </ul>
Remote assembly door	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Shin-Etsu Chemical SILICONE GREASE G-30M (part No. 004404002) or equivalent</li> </ul>
Frame assembly front door outer	

## • TRUNK

Application point	Recommended and alternative materials
Sliding section of hinge assembly trunk	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NIPPECO LTS-1N18L or the equivalent</li> </ul>

## • STEERING SYSTEM

Application point	Recommended and alternative materials
Steering gearbox (rack and pinion, rack guide end surface, and spring end surface)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> KYODO YUSHI Multemp AC-P or equivalent</li> </ul>
Steering gearbox (tie-rod installation part on boot small end side)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> IDEMITSU APOLLOIL AUTOLEX A, Toshiba silicone TSM650 or equivalent</li> </ul>
Steering gear box (dust cover lip portion)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> KYODO YUSHI One Luber No. 2 or equivalent</li> </ul>
Steering gearbox (rack sliding portion of rack bushing)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> KYODO YUSHI One Luber MO2 or equivalent</li> </ul>

Steering angle sensor	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Contained item, KYODO YUSHI Multemp L or equivalent</li> </ul>
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#### • DRIVE SHAFT

Application point	Recommended and alternative materials
Rear drive shaft	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> NKG814 or equivalent</li> </ul>

#### • AIR CONDITIONER

Application point	Recommended and alternative materials
Mode door actuator lever (inside the rail of mode)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> SUBARU genuine grease (part No. 72129AJ000) or equivalent</li> </ul>

#### • REGULATOR & MOTOR ASSEMBLY

Application point	Recommended and alternative materials
Regulator & motor assembly front	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Chassis grease or equivalent</li> </ul>

#### • WIPER

Application point	Recommended and alternative materials
Wiper motor link (crank arm pivot portion)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> KYODO YUSHI Multemp SA or equivalent</li> </ul>

#### • AIRBAG SYSTEM

Application point	Recommended and alternative materials
Steering roll connector	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Contained item, KYODO YUSHI Multemp L or equivalent</li> </ul>

#### • STARTER (MT model)

Application point	Recommended and alternative materials
Internal gear sliding portion	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Multemp #6129 or equivalent</li> </ul>
Shaft spline portion	
Shift lever sliding portion	
Inside of the internal gear and pinion gear	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Grease: Molykote®</li> </ul>

AG650 or equivalent
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● **STARTER (AT model)**

Application point	Recommended and alternative materials
Shift lever hook	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> DENSO HL50 or equivalent</li> </ul>
Magnet switch plunger portion	
Inside of the internal gear, pinion stopper washer, and pinion gear	

● **SEAT**

Application point	Recommended and alternative materials
Seat frame assembly cushion (belt assembly front INN installation area)	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> IDEMITSU APOLLOIL AUTOLEX A</li> <li>● <b>Alternative:</b> Lithium soap grease (not containing silicone) Base oil: Not specified Consistency: NLGI No. 2</li> </ul>
Spring wave washer	

## 5. ADHESIVE AND PRIMER

● Primer

Application point	Recommended and alternative materials
FIXED GLASS	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> Dow Automotive's ESSEX U-401, U402 or equivalent</li> </ul>
Body (glass adhesive surface)	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> Dow Automotive's ESSEX U-413 or equivalent</li> </ul>
Rear bumper (sonar holder installation area)	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> 3M Company K-540NT or equivalent</li> </ul>
Locating pin	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> Dow Automotive's ESSEX U-401, U402 or equivalent</li> </ul>
Roof molding (cap molding, clip molding)	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> 3M K-500 or equivalent</li> </ul>
Garnish assembly fender LWR INN	<ul style="list-style-type: none"> <li>● <b>Recommended materials:</b> 3M K520 or equivalent</li> </ul>
Garnish assembly fender LWR OUT	

- Adhesive

Application point	Recommended and alternative materials
FIXED GLASS	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> Dow Automotive's ESSEX U-400HV or equivalent</li> </ul>
Locating pin	
Roof molding (cap molding, clip molding)	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> 3M DP-100 or equivalent</li> </ul>

## 6. SEAL MATERIAL

### • ENGINE

Application point	Recommended and alternative materials
Oil pressure switch	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1324 (part No. 004403042) or equivalent</li> </ul>
PCV valve	
Oil pan	
Vacuum pump	
High-pressure fuel pump case	
Oil separator cover	
Front camshaft cap	
Rear camshaft cap	
Cylinder block	
Rocker cover gasket	
Chain cover	
Oil pan upper	
Cylinder head gasket	
Camshaft carrier	
Main gallery plug	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1105 (part No. 004403010) or equivalent</li> </ul>

### • MT

Application point	Recommended and alternative materials
MT transmission case	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1281 or equivalent</li> </ul>
Front bearing retainer	
Extension case	

### • AT

Application point	Recommended and alternative materials

Extension case	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1281 or equivalent</li> </ul>
Air breather pipe	

• **REAR DIFFERENTIAL**

Application point	Recommended and alternative materials
Differential carrier cover	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1281 or equivalent</li> </ul>

• **STEERING SYSTEM**

Application point	Recommended and alternative materials
Steering adjusting screw	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> THREE BOND 1141G or equivalent</li> </ul>

• **DOOR**

Application point	Recommended and alternative materials
Sealing cover	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> 3M Butyl tape 8626 or equivalent</li> </ul>
Door	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> BAYER SILICONE SEALANT or equivalent</li> </ul>

• **FUEL**

Application point	Recommended and alternative materials
Service hole cover	<ul style="list-style-type: none"> <li>• <b>Recommended materials:</b> 3M Butyl tape 8626 or equivalent</li> </ul>